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- Accident prevention tags must be used as a temporary means of warning employees of an existing hazard, such as defective tools, equipment, etc. They must not be used in place of, or as a substitute for, accident prevention signs.

Module 15: Safety and Health Programs

Module Description

Have you ever been injured on the job? Do you know what steps to take in the event of sickness, injury, or death due to your workplace environment? More importantly, do you know how to protect yourself, as well as others, and help promote healthy working conditions? Every year, more than 50,000 workers die from exposure to various hazards in the workplace. The Occupational Safety and Health Administration (OSHA) is committed to saving lives, preventing injuries, and protecting the health of workers all across America. This module will show you how to identify workplace hazards and become involved with ensuring healthy and safe working environments.

Module Learning Objectives

At the conclusion of this module, students will be able to:

- Describe the importance of effective safety and health programs
- Summarize the common characteristics of exemplary workplaces
- Explain the General Guidelines of an effective safety and health program
- Discuss the major elements of an effective safety and health program
- Name the state programs
- List consultation services
- Describe the Voluntary Protection Program (VPP)
- Discuss the Safety Health Achievement Recognition Program (SHARP)
- Describe the Strategic Partnership Program
- Apply training and education
- Utilize electronic information

Lesson 1: Effective Program Elements

Lesson Focus

At the end of this lesson, students will be able to:

- Explain the importance of having an effective safety and health programs
- Identify common characteristics of exemplary workplaces
- Describe OSHA's general guidelines for safety and health programs
- Identify the major elements of an effective safety and health program, which include:

- Management leadership
- Worker participation
- Hazard identification and assessment
- Hazard prevention and control
- Safety and health training

General Guidelines

An effective program includes provisions for systematic identification, evaluation, and prevention or control of hazards. It should go beyond specific requirements of the law to address any and all hazards that might be present. As the size and complexity of the worksite or process increases, so does the need for written guidance. Some individual OSHA standards require a written program to be created. Taken as a whole, these individual written programs will often form the basis of the facility safety program.

Effective management of worker safety and health programs:

- Reduces the extent and severity of work-related injuries and illnesses
- Improves employee morale and productivity
- Reduces workers' compensation costs

Organized and systematic methods are used to:

- Assign responsibility to managers, supervisors, and employees.
- Regularly inspect for hazards and control the hazards.
- Regularly re-evaluate the effectiveness of existing programs.
- Orient and train all employees to eliminate or avoid hazards.

Major Elements

An effective occupational safety and health program will include the following elements:

Management Leadership

Management provides the leadership, vision, and resources needed to implement an effective safety and health program. Management leadership means that business owners, managers, and supervisors:

- Make worker safety and health a core organizational value
- Are fully committed to eliminating hazards, protecting workers, and continuously improving workplace safety and health
- Provide sufficient resources to implement and maintain the safety and health program
- Visibly demonstrate and communicate their safety and health commitment to workers and others

- Set an example through their own actions

The following are actions employers can take to demonstrate their leadership on health and safety:

Action 1: Communicate your commitment to a safety and health program

A clear, written policy helps you communicate that safety and health is a primary organizational value –as important as productivity, profitability, product or service quality, and customer satisfaction.

Establish a written policy signed by top management describing the organization's commitment to safety and health and pledging to establish and maintain a safety and health program for all workers.

- Communicate the policy to all workers and, at appropriate times and places, to relevant parties, including:
  - Contractors, subcontractors, staffing agencies, and temporary workers at your worksite(s)
  - Suppliers and vendors
  - Other businesses in a multi-tenant building
  - Visitors
  - Customers
- Reinforce management commitment by considering safety and health in all business decisions, including contractor and vendor selection, purchasing, and facility design and modification.
- Be visible in operations and set an example by following the same safety procedures you expect workers to follow. Begin work meetings with a discussion or review of safety and health indicators and any outstanding safety items on a "to do" list.

Action 2: Define program goals

By establishing specific goals and objectives, management sets expectations for managers, supervisors, and workers and for the program overall. The goals and objectives should focus on specific actions that will improve workplace safety and health.

- Establish realistic, measurable goals for improving safety and health. Goals emphasizing injury and illness prevention should be included rather than focusing on injury and illness rates.
- Develop plans to achieve the goals by assigning tasks and responsibilities to particular people, setting timeframes, and determining resource needs.

Action 3: Allocate resources

Management provides the resources needed to implement the safety and health program, pursue program goals, and address program shortcomings when they are identified.

- Estimate the resources needed to establish and implement the program.
- Allow time in workers' schedules for them to fully participate in the program.
- Integrate safety and health into planning and budgeting processes and align budgets with program needs.
- Provide and direct resources to operate and maintain the program, meet safety and health commitments, and pursue program goals.

Note: Resource needs will vary depending on your organization's size, complexity, hazard types, and program maturity and development. Resource needs may include: capital equipment and supplies; staff time; training; access to information and tools (e.g., vendor information, Safety Data Sheets, injury/illness data, checklists, online databases); and access to safety and health experts, including OSHA's free and confidential On-site Consultation Program.

Action 4: Expect performance

Management leads the program effort by establishing roles and responsibilities and providing an open, positive environment that encourages communication about safety and health.

- Identify a front line person or persons to lead the safety program effort, make plans, coordinate activities, and track progress. Define and regularly communicate responsibilities and authorities for implementing and maintaining the program and hold people accountable for performance.
- Provide positive recognition for meeting or exceeding safety and health goals aimed at preventing injury and illness (e.g., reporting close calls/near misses, attending training, conducting inspections).
- Establish ways for management and all workers to communicate freely and often about safety and health issues without fear of retaliation.

Note: Maintaining a positive and encouraging tone is important. Successful programs reward, rather than discipline, workers who identify problems or concerns, much like successful quality programs. Disciplinary measures should be reserved for situations in which an individual manager or worker is uncooperative or becomes an impediment to progress.

Worker Participation

To be effective, any safety and health program needs the meaningful participation of workers and their representatives. Workers have much to gain from a successful

program and the most to lose if the program fails. They also often know the most about potential hazards associated with their jobs. Successful programs tap into this knowledge base.

Worker participation means that workers are involved in establishing, operating, evaluating, and improving the safety and health program. All workers at a worksite should participate, including those employed by contractors, subcontractors, and temporary staffing agencies (see "Communication and Coordination for Host Employers, Contractors, and Staffing Agencies").

In an effective safety and health program, all workers:

- Are encouraged to participate in the program and feel comfortable providing input and reporting safety or health concerns
- Have access to information they need to participate effectively in the program
- Have opportunities to participate in all phases of program design and implementation
- Do not experience retaliation when they raise safety and health concerns; report injuries, illnesses, and hazards; participate in the program; or exercise safety and health rights

Note: Worker participation is vital to the success of safety and health programs. Where workers are represented by a union, it is important that worker representatives also participate in the program, consistent with the rights provided to worker representatives under the Occupational Safety and Health Act of 1970 and the National Labor Relations Act.

The following are actions employers can take to ensure workers' buy-in to a health and safety program:

Action 1: Encourage workers to participate in the program

By encouraging workers to participate in the program, management signals that it values their input into safety and health decisions.

- Give workers the necessary time and resources to participate in the program.
- Acknowledge and provide positive reinforcement to those who participate in the program.
- Maintain an open-door policy that invites workers to talk to managers about safety and health and to make suggestions.

Action 2: Encourage workers to report safety and health concerns

Workers are often best positioned to identify safety and health concerns and program shortcomings, such as emerging workplace hazards, unsafe conditions, close calls/near

misses, and actual incidents. By encouraging reporting and following up promptly on all reports, employers can address issues before someone gets hurt or becomes ill.

- Establish a process for workers to report injuries, illnesses, close calls/near misses, hazards, and other safety and health concerns, and respond to reports promptly; include an option for anonymous reporting to reduce fear of reprisal
- Report back to workers routinely and frequently about action taken in response to their concerns and suggestions
- Emphasize that management will use reported information only to improve workplace safety and health and that no worker will experience retaliation for bringing such information to management's attention
- Empower all workers to initiate or request a temporary suspension or shut down of any work activity or operation they believe to be unsafe
- Involve workers in finding solutions to reported issues

Action 3: Give workers access to safety and health information

Sharing relevant safety and health information with workers fosters trust and helps organizations make more informed safety and health decisions.

- Give workers the information they need to understand safety and health hazards and control measures in the workplace. Some OSHA standards require employers to make specific types of information available to workers, such as:
  - Safety Data Sheets (SDS)
  - Injury and illness data (may need to be redacted and aggregated to eliminate personal identifiers)
  - Results of environmental exposure monitoring conducted in the workplace (prevent disclosure of sensitive and personal information as required)
- Other useful information for workers to review can include:
  - Chemical and equipment manufacturer safety recommendations
  - Workplace inspection reports
  - Incident investigation reports (prevent disclosure of sensitive and personal information as required)
  - Workplace job hazard analyses

Action 4: Involve workers in all aspects of the program

Including worker input at every step of program design and implementation improves your ability to identify the presence and causes of workplace hazards, creates a sense of program ownership among workers, enhances their understanding of how the program works, and helps sustain the program over time. Provide opportunities for workers to participate in all aspects of the program, including but not limited to helping:

- Develop the program and set goals.
- Report hazards and develop solutions that improve safety and health.

- Analyze hazards in each step of routine and non-routine jobs, tasks, and processes.
- Define and document safe work practices.
- Conduct site inspections.
- Develop and revise safety procedures.
- Participate in incident and close call/near miss investigations.
- Train current coworkers and new hires.
- Develop, implement, and evaluate training programs.
- Evaluate program performance and identify ways to improve it.
- Take part in exposure monitoring and medical surveillance associated with health hazards.

Action 5: Remove barriers to participation

To participate meaningfully in the program, workers must feel that their input is welcome, their voices will be heard, and they can access reporting mechanisms. Participation will be suppressed if language, education, or skill levels in the workplace are not considered, or if workers fear retaliation or discrimination for speaking up (for example, if investigations focus on blaming individuals rather than the underlying conditions that led to the incident or if reporting an incident or concern could jeopardize the award of incentive-based prizes, rewards, or bonuses).

- Ensure that workers from all levels of the organization can participate regardless of their skill level, education, or language.
- Provide frequent and regular feedback to show employees that their safety and health concerns are being heard and addressed.
- Authorize sufficient time and resources to facilitate worker participation; for example, hold safety and health meetings during regular working hours.
- Ensure that the program protects workers from being retaliated against for reporting injuries, illnesses, and hazards; participating in the program; or exercising their safety and health rights. Ensure that other policies and programs do not discourage worker participation.
- Post the 11(c) Fact Sheet (found at www.whistleblowers.gov) in the workplace or otherwise make it available for easy access by workers.

Note: Incentive programs (such as point systems, awards, and prizes) should be designed in a manner that does not discourage injury and illness reporting; otherwise, hazards may remain undetected. Although sometimes required by law or insurance providers, mandatory drug testing following injuries can also suppress reporting. Effective safety and health programs recognize positive safety and health activities, such as reporting hazardous conditions or suggesting safer work procedures. (See OSHA's "Employer Safety Incentive and Disincentive Policies and Practices" memorandum, dated March 12, 2012, at www.osha.gov/as/opa/whistleblowermemo.html.)

Hazard Identification and Assessment

One of the "root causes" of workplace injuries, illnesses, and incidents is the failure to identify or recognize hazards that are present, or that could have been anticipated. A critical element of any effective safety and health program is a proactive, ongoing process to identify and assess such hazards.

To identify and assess hazards, employers and workers should:

- Collect and review information about the hazards present or likely to be present in the workplace
- Conduct initial and periodic workplace inspections of the workplace to identify new or recurring hazards
- Investigate injuries, illnesses, incidents, and close calls/near misses to determine the underlying hazards, their causes, and safety and health program shortcomings
- Group similar incidents and identify trends in injuries, illnesses, and hazards reported
- Consider hazards associated with emergency or nonroutine situations
- Determine the severity and likelihood of incidents that could result for each hazard identified and use this information to prioritize corrective actions

Some hazards, such as housekeeping and tripping hazards, can and should be fixed as they are found. Fixing hazards on the spot emphasizes the importance of safety and health and takes advantage of a safety leadership opportunity. The following actions can be taken to identify hazards at a worksite:

Action 1: Collect existing information about workplace hazards

Information on workplace hazards may already be available to employers and workers, from both internal and external sources. Collect, organize, and review information with workers to determine what types of hazards may be present and which workers may be exposed or potentially exposed. Information available in the workplace may include:

- Equipment and machinery operating manuals
- Safety Data Sheets (SDS) provided by chemical manufacturers
- Self-inspection reports and inspection reports from insurance carriers, government agencies, and consultants
- Records of previous injuries and illnesses, such as OSHA 300 and 301 logs and reports of incident investigations
- Workers' compensation records and reports
- Patterns of frequently occurring injuries and illnesses
- Exposure monitoring results, industrial hygiene assessments, and medical records (appropriately redacted to ensure patient/worker privacy)
- Existing safety and health programs (lockout/tagout, confined spaces, process safety management, personal protective equipment, etc.)

- Input from workers, including surveys or minutes from safety and health committee meetings
- Results of job hazard analyses, also known as job safety analyses

Information about hazards may be available from outside sources, such as:

- OSHA, National Institute for Occupational Safety and Health (NIOSH), and Centers for Disease Control and Prevention (CDC) websites, publications, and alerts
- Trade associations
- Labor unions, state and local occupational safety and health committees/coalitions ("COSH groups"), and worker advocacy groups
- Safety and health consultants

Action 2: Inspect the workplace for safety hazards

Hazards can be introduced over time as workstations and processes change, equipment or tools become worn, maintenance is neglected, or housekeeping practices decline. Setting aside time to regularly inspect the workplace for hazards can help identify shortcomings so that they can be addressed before an incident occurs.

- Conduct regular inspections of all operations, equipment, work areas and facilities. Have workers participate on the inspection team and talk to them about hazards that they see or report.
- Be sure to document inspections so you can later verify that hazardous conditions are corrected. Take photos or video of problem areas to facilitate later discussion and brainstorming about how to control them, and for use as learning aids.
- Include all areas and activities in these inspections, such as storage and warehousing, facility and equipment maintenance, purchasing and office functions, and the activities of on-site contractors, subcontractors, and temporary employees.
- Regularly inspect both plant vehicles (e.g., forklifts, powered industrial trucks) and transportation vehicles (e.g., cars, trucks).
- Use checklists that highlight things to look for. Typical hazards fall into several major categories, such as those listed below; each workplace will have its own list:
    - General housekeeping
    - Slip, trip, and fall hazards
    - Electrical hazards
    - Equipment operation
    - Equipment maintenance
    - Fire protection
    - Work organization and process flow (including staffing and scheduling)
    - Work practices
    - Workplace violence

  - Ergonomic problems
  - Lack of emergency procedures
- Before changing operations, workstations, or workflow; making major organizational changes; or introducing new equipment, materials, or processes, seek the input of workers and evaluate the planned changes for potential hazards and related risks.

Note: Many hazards can be identified using common knowledge and available tools. For example, you can easily identify and correct hazards associated with broken stair rails and frayed electrical cords. Workers can be a very useful internal resource, especially if they are trained in how to identify and assess risks.

Action 3: Identify health hazards

Identifying workers' exposure to health hazards is typically more complex than identifying physical safety hazards. For example, gases and vapors may be invisible, often have no odor, and may not have an immediately noticeable harmful health effect. Health hazards include chemical hazards (solvents, adhesives, paints, toxic dusts, etc.), physical hazards (noise, radiation, heat, etc.), biological hazards (infectious diseases), and ergonomic risk factors (heavy lifting, repetitive motions, vibration). Reviewing workers' medical records (appropriately redacted to ensure patient/worker privacy) can be useful in identifying health hazards associated with workplace exposures.

- Identify *chemical hazards* –review SDS and product labels to identify chemicals in your workplace that have low exposure limits, are highly volatile, or are used in large quantities or in unventilated spaces. Identify activities that may result in skin exposure to chemicals.
- Identify *physical hazards* –identify any exposures to excessive noise (areas where you must raise your voice to be heard by others), elevated heat (indoor and outdoor), or sources of radiation (radioactive materials, X-rays, or radiofrequency radiation).
- Identify *biological hazards* –determine whether workers may be exposed to sources of infectious diseases, molds, toxic or poisonous plants, or animal materials (fur or scat) capable of causing allergic reactions or occupational asthma.
- Identify *ergonomic risk factors* –examine work activities that require heavy lifting, work above shoulder height, repetitive motions, or tasks with significant vibration.
- Conduct *quantitative exposure assessments* –when possible, using air sampling or direct reading instruments.
- *Review medical records* –to identify cases of musculoskeletal injuries, skin irritation or dermatitis, hearing loss, or lung disease that may be related to workplace exposures.

Note: Identifying and assessing health hazards may require specialized knowledge. Small businesses can obtain free and confidential occupational safety and health advice

services, including help identifying and assessing workplace hazards, through OSHA's On-site Consultation Program.

Action 4: Conduct incident investigations

Workplace incidents –including injuries, illnesses, close calls/near misses, and reports of other concerns– provide a clear indication of where hazards exist. By thoroughly investigating incidents and reports, you will identify hazards that are likely to cause future harm. The purpose of an investigation must always be to identify the root causes (and there are often more than one) of the incident or concern, in order to prevent future occurrences.

- Develop a clear plan and procedure for conducting incident investigations, so that an investigation can begin immediately when an incident occurs. The plan should cover items such as:
  - Who will be involved
  - Lines of communication
  - Materials, equipment, and supplies needed
  - Reporting forms and templates
- Train investigative teams on incident investigation techniques, emphasizing objectivity and open-mindedness throughout the investigation process.
- Conduct investigations with a trained team that includes representatives of both management and workers.
- Investigate close calls/near misses.
- Identify and analyze root causes to address underlying program shortcomings that allowed the incidents to happen.
- Communicate the results of the investigation to managers, supervisors, and workers to prevent recurrence.

Effective incident investigations do not stop at identifying a single factor that triggered an incident. They ask the questions "Why?" and "What led to the failure?" For example, if a piece of equipment fails, a good investigation asks: "Why did it fail?" "Was it maintained properly?" "Was it beyond its service life?" and "How could this failure have been prevented?" Similarly, a good incident investigation does not stop when it concludes that a worker made an error. It asks such questions as: "Was the worker provided with appropriate tools and time to do the work?" "Was the worker adequately trained?" and "Was the worker properly supervised?"

Note: OSHA has special reporting requirements for work-related incidents that lead to serious injury or a fatality (29 CFR 1904.39). OSHA must be notified within 8 hours of a work-related fatality, and within 24 hours of an amputation, loss of an eye, or inpatient hospitalization.

Action 5: Identify hazards associated with emergency and nonroutine situations

Emergencies present hazards that need to be recognized and understood. Nonroutine or infrequent tasks, including maintenance and startup/shutdown activities, also present potential hazards. Plans and procedures need to be developed for responding appropriately and safely to hazards associated with foreseeable emergency scenarios and non-routine situations.

- Identify foreseeable emergency scenarios and non-routine tasks, taking into account the types of material and equipment in use and the location within the facility. Scenarios such as the following may be foreseeable:
  - Fires and explosions
  - Chemical releases
  - Hazardous material spills
  - Startups after planned or unplanned equipment shutdowns
  - Nonroutine tasks, such as infrequently performed maintenance activities
  - Structural collapse
  - Disease outbreaks
  - Weather emergencies and natural disasters
  - Medical emergencies
  - Workplace violence

Action 6: Characterize the nature of identified hazards, identify interim control measures, and prioritize the hazards for control

The next step is to assess and understand the hazards identified and the types of incidents that could result from worker exposure to those hazards. This information can be used to develop interim controls and to prioritize hazards for permanent control.

- Evaluate each hazard by considering the severity of potential outcomes, the likelihood that an event or exposure will occur, and the number of workers who might be exposed.
- Use interim control measures to protect workers until more permanent solutions can be implemented.
- Prioritize the hazards so that those presenting the greatest risk are addressed first. Note, however, that employers have an ongoing obligation to control all serious recognized hazards and to protect workers.

Note: "Risk" is the product of hazard and exposure. Thus, risk can be reduced by controlling or eliminating the hazard or by reducing workers' exposure to hazards. An assessment of risk helps employers understand hazards in the context of their own workplace and prioritize hazards for permanent control.



Hazard Prevention and Control

Effective controls protect workers from workplace hazards; help avoid injuries, illnesses, and incidents; minimize or eliminate safety and health risks; and help employers provide workers with safe and healthful working conditions. The processes described in this section will help employers prevent and control hazards identified in the previous section.

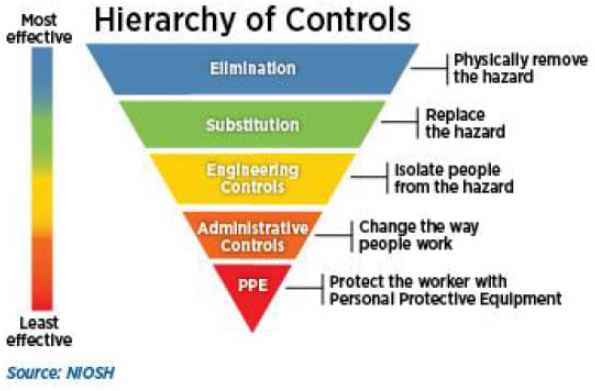
To effectively control and prevent hazards, employers should take the following actions:

Action 1: Identify control options

A wealth of information exists to help employers investigate options for controlling identified hazards. Before selecting any control options, it is essential to solicit workers' input on their feasibility and effectiveness. Collect, organize, and review information with workers to determine what types of hazards may be present and which workers may be exposed or potentially exposed. Information available in the workplace may include:

- Review sources such as OSHA standards and guidance, industry consensus standards, National Institute for Occupational Safety and Health (NIOSH) publications, manufacturers' literature, and engineering reports to identify potential control measures. Keep current on relevant information from trade or professional associations.
- Investigate control measures used in other workplaces and determine whether they would be effective at your workplace.
- Get input from workers who may be able to suggest and evaluate solutions based on their knowledge of the facility, equipment, and work processes.
- For complex hazards, consult with safety and health experts, including OSHA's On-site Consultation Program.

Action 2: Select controls



Employers should select the controls that are the most feasible, effective, and permanent.

- Eliminate or control all serious hazards (hazards that are causing or are likely to cause death or serious physical harm) immediately.
- Use interim controls while you develop and implement longer-term solutions.
- Select controls according to a hierarchy that emphasizes engineering solutions (including elimination or substitution) first, followed by safe work practices, administrative controls, and finally personal protective equipment.
- Avoid selecting controls that may directly or indirectly introduce new hazards. Examples include exhausting contaminated air into occupied work spaces or using hearing protection that makes it difficult to hear backup alarms.
- Review and discuss control options with workers to ensure that controls are feasible and effective.
- Use a combination of control options when no single method fully protects workers.

Note: Whenever possible, select equipment, machinery, and materials that are inherently safer based on the application of "Prevention through Design" (PtD) principles. Apply PtD when making your own facility, equipment, or product design decisions. For more information, see the link to the NIOSH PtD initiative in Additional Resources.

Action 3: Develop and update a hazard control plan

A hazard control plan describes how the selected controls will be implemented. An effective plan will address serious hazards first. Interim controls may be necessary, but the overall goal is to ensure effective long-term control of hazards. It is important to track progress toward completing the control plan and periodically (at least annually and when conditions, processes or equipment change) verify that controls remain effective.

- List the hazards needing controls in order of priority.
- Assign responsibility for installing or implementing the controls to a specific person or persons with the power or ability to implement the controls.
- Establish a target completion date.
- Plan how you will track progress toward completion.
- Plan how you will verify the effectiveness of controls after they are installed or implemented.

Action 4: Select controls to protect workers during nonroutine operations and emergencies

The hazard control plan should include provisions to protect workers during nonroutine operations and foreseeable emergencies. Depending on your workplace, these could include fires and explosions; chemical releases; hazardous material spills; unplanned



equipment shutdowns; infrequent maintenance activities; natural and weather disasters; workplace violence; terrorist or criminal attacks; disease outbreaks (e.g., pandemic influenza); or medical emergencies. Nonroutine tasks, or tasks workers don't normally do, should be approached with particular caution. Prior to initiating such work, review job hazard analyses and job safety analyses with any workers involved and notify others about the nature of the work, work schedule, and any necessary precautions.

- Develop procedures to control hazards that may arise during nonroutine operations (e.g., removing machine guarding during maintenance and repair).
- Develop or modify plans to control hazards that may arise in emergency situations.
- Procure any equipment needed to control emergency-related hazards.
- Assign responsibilities for implementing the emergency plan.
- Conduct emergency drills to ensure that procedures and equipment provide adequate protection during emergency situations.

Note: Depending on your location, type of business, and materials stored or used on site, authorities including local fire and emergency response departments, state agencies, the U.S. Environmental Protection Agency, the Department of Homeland Security, and OSHA may have additional requirements for emergency plans. Ensure that your procedures comply with these requirements.

Action 5: Implement selected controls in the workplace

Once hazard prevention and control measures have been identified, they should be implemented according to the hazard control plan.

- Implement hazard control measures according to the priorities established in the hazard control plan.
- When resources are limited, implement measures on a "worst-first" basis, according to the hazard ranking priorities (risk) established during hazard identification and assessment. (Note, however, that regardless of limited resources, employers have an obligation to protect workers from recognized, serious hazards.)
- Promptly implement any measures that are easy and inexpensive—e.g., general housekeeping, removal of obvious tripping hazards such as electrical cords, basic lighting—regardless of the level of hazard they involve.

Action item 6: Follow up to confirm that controls are effective

To ensure that control measures are and remain effective, employers should track progress in implementing controls, inspect and evaluate controls once they are installed, and follow routine preventive maintenance practices.

- Track progress and verify implementation by asking the following questions:

    - Have all control measures been implemented according to the hazard control plan?
    - Have engineering controls been properly installed and tested?
    - Have workers been appropriately trained so that they understand the controls, including how to operate engineering controls, safe work practices, and PPE use requirements?
    - Are controls being used correctly and consistently?
- Conduct regular inspections (and industrial hygiene monitoring, if indicated) to confirm that engineering controls are operating as designed.
- Evaluate control measures to determine if they are effective or need to be modified. Involve workers in the evaluation of the controls. If controls are not effective, identify, select, and implement further control measures that will provide adequate protection.
- Confirm that work practices, administrative controls, and personal protective equipment use policies are being followed.
- Conduct routine preventive maintenance of equipment, facilities, and controls to help prevent incidents due to equipment failure.

Safety and Health Education and Training

Education and training are important tools for informing workers and managers about workplace hazards and controls so they can work more safely and be more productive. Another role of education and training, however, is to provide workers and managers with a greater understanding of the safety and health program itself, so that they can contribute to its development and implementation.

Education and training provide employers, managers, supervisors, and workers with:

- Knowledge and skills needed to do their work safely and avoid creating hazards that could place themselves or others at risk.
- Awareness and understanding of workplace hazards and how to identify, report, and control them.
- Specialized training, when their work involves unique hazards.

Additional training may be needed depending on the roles assigned to employers or individual managers, supervisors, and workers. For example, employers, managers, and supervisors may need specific training to ensure that they can fulfill their roles in providing leadership, direction, and resources for the safety and health program. Workers assigned specific roles in the program (e.g., incident investigation team members) may need training to ensure their full participation in those functions. Effective training and education can be provided outside a formal classroom setting. Peer-to-peer training, on-the-job training, and worksite demonstrations can be effective in conveying safety concepts, ensuring understanding of hazards and their controls, and promoting good work practices.

The following actions ensure an effective safety and health training program:

Action 1: Provide program awareness training

Managers, supervisors, and workers all need to understand the program's structure, plans, and procedures. Having this knowledge ensures that everyone can fully participate in developing, implementing, and improving the program.

- Provide training to all managers, supervisors, workers, and contractor, subcontractor, and temporary agency workers on:
  - Safety and health policies, goals, and procedures
  - Functions of the safety and health program
  - Whom to contact with questions or concerns about the program (including contact information)
  - How to report hazards, injuries, illnesses, and close calls/near misses
  - What to do in an emergency
  - The employer's responsibilities under the program
  - Workers' rights under the Occupational Safety and Health Act
- Provide information on the safety and health hazards of the workplace and the controls for those hazards.
- Ensure that training is provided in the language(s) and at a literacy level that all workers can understand.
- Emphasize that the program can only work when everyone is involved and feels comfortable discussing concerns; making suggestions; and reporting injuries, incidents, and hazards.
- Confirm, as part of the training, that all workers have the right to report injuries, incidents, hazards, and concerns and to fully participate in the program without fear of retaliation.

Action 2: Train employers, managers, and supervisors on their roles in the program

Employers, managers, and supervisors are responsible for workers' safety, yet sometimes have little training on safety-related concepts and techniques. They may benefit from specific training that allows them to fulfill their leadership roles in the program.

- Reinforce employers, managers, and supervisors' knowledge of their responsibilities under the Occupational Safety and Health Act and the workers' rights guaranteed by the Act.
- Train employers, managers, and supervisors on procedures for responding to workers' reports of injuries, illnesses, and incidents, including ways to avoid discouraging reporting.
- Instruct employers, managers, and supervisors on fundamental concepts and techniques for recognizing hazards and methods of controlling them, including the hierarchy of controls (see "Hazard Prevention and Control").



- Instruct employers, managers, and supervisors on incident investigation techniques, including root cause analysis.

Action 3: Train workers on their specific roles in the safety and health program

Additional training may be needed to ensure that workers can incorporate any assigned safety and health responsibilities into their daily routines and activities.

- Instruct workers on how to report injuries, illnesses, incidents, and concerns. If a computerized reporting system is used, ensure that all employees have the basic computer skills and computer access sufficient to submit an effective report.
- Instruct workers assigned specific roles within the safety and health program on how they should carry out those responsibilities, including:
  - Hazard recognition and controls
  - Participation in incident investigations
  - Program evaluation and improvement
- Provide opportunities for workers to ask questions and provide feedback during and after the training.
- As the program evolves, institute a more formal process for determining the training needs of workers responsible for developing, implementing, and maintaining the program.

Action 4: Train workers on hazard identification and controls

Providing workers with an understanding of hazard recognition and control and actively involving them in the process can help to eliminate hazards before an incident occurs.

- Train workers on techniques for identifying hazards, such as job hazard analysis (see OSHA Publication 3071).
- Train workers so they understand and can recognize the hazards they may encounter in their own jobs, as well as more general work-related hazards.
- Instruct workers on concepts and techniques for controlling hazards, including the hierarchy of controls and its importance.
- Train workers on the proper use of work practice and administrative controls.
- Train workers on when and how to wear required personal protective equipment.
- Provide additional training, as necessary, when a change in facilities, equipment, processes, materials, or work organization could increase hazards, and whenever a worker is assigned a new task.

Lesson Summary

- Effective management of worker safety and health programs:
  - Reduces the extent and severity of work-related injuries and illnesses
  - Improves employee morale and productivity
  - Reduces workers' compensation costs
- Organized and systematic methods are used to:

  - Assign responsibility to managers, supervisors, and employees.
  - Regularly inspect for hazards and control the hazards.
  - Regularly re-evaluate the effectiveness of existing programs.
  - Orient and train all employees to eliminate or avoid hazards.
- Major elements of a safety and health program include the following:
  - Management provides the leadership, vision, and resources needed to implement an effective safety and health program. Management leadership means that business owners, managers, and supervisors:
    - Make worker safety and health a core organizational value
    - Are fully committed to eliminating hazards, protecting workers, and continuously improving workplace safety and health
    - Provide sufficient resources to implement and maintain the safety and health program
    - Visibly demonstrate and communicate their safety and health commitment to workers and others
    - Set an example through their own actions
  - All workers are encouraged to participate in the program and feel comfortable providing input and reporting safety or health concerns. They should also have access to information they need to participate effectively in the program.
  - To identify and assess hazards, employers and workers should:
    - Collect and review information about the hazards present or likely to be present in the workplace
    - Conduct initial and periodic workplace inspections of the workplace to identify new or recurring hazards
    - Investigate injuries, illnesses, incidents, and close calls/near misses to determine the underlying hazards, their causes, and safety and health program shortcomings
    - Group similar incidents and identify trends in injuries, illnesses, and hazards reported
    - Consider hazards associated with emergency or nonroutine situations
    - Determine the severity and likelihood of incidents that could result for each hazard identified and use this information to prioritize corrective actions
  - Effective controls protect workers from workplace hazards; help avoid injuries, illnesses, and incidents; minimize or eliminate safety and health risks; and help employers provide workers with safe and healthful working conditions.
  - Education and training are important tools for informing workers and managers about workplace hazards and controls so they can work more safely and be more productive. Another role of education and training, however, is to provide workers and managers with a greater understanding of the safety and health program itself, so that they can contribute to its development and implementation.

Lesson 2: OSHA Safety and Health Programs

Lesson Focus

At the end of this lesson, students will be able to:

- Describe how and why state programs operate
- Describe the consultation services available from OSHA
- Explain the Voluntary Protection Programs (VPPs)
- Explain the Strategic Partnership Program
- Identify key elements of training and education
- Locate necessary electronic information

State Programs

The Occupational Safety and Health Act of 1970 (OSH Act) encourages states to develop and operate their own job safety and health plans, which OSHA then approves and monitors. There are currently 28 state/territory plans: 22 cover both private and public (state and local government) employment; 6 states/territories—Connecticut, Illinois, Maine, New Jersey, New York, and the Virgin Islands—have plans that cover the public sector only, and use federal OSHA regulations for private industry. There are 28 states/territories that use only federal OSHA regulations.

More Information: Full details and a current map of state/territory plans.
States and territories with their own OSHA-approved occupational safety and health plans must adopt and enforce standards identical to, or at least as effective as, the federal standards, and provide extensive programs of voluntary compliance and technical assistance, including consultation services.

Consultation Services

Consultation assistance is available upon request to employers who want help in establishing and maintaining a safe and healthful workplace. Funded equally by OSHA and each state, consultation services are provided at no cost to the employer. Each state, whether it uses the federal plan or its own state plan, operates the consultation program for that state. Primarily developed for smaller employers with more hazardous operations, the consultation service is delivered by state governments employing professional safety and health consultants.

Comprehensive assistance includes a hazard survey of the worksite and appraisal of all aspects of the employer's existing safety and health management system. In addition, the service assists employers in developing and implementing an effective safety and health management system. No penalties or citations issued for hazards identified by the consultant. The employer's only obligation is to correct all serious hazards identified by the consultant within the agreed upon correction timeframe. OSHA provides

consultation assistance to the employer with the assurance that his or her name, firm, and any information about the workplace will not be reported to OSHA enforcement staff.

Under the consultation program, certain exemplary employers may request participation in OSHA's Safety and Health Achievement Recognition Program (SHARP). Eligibility for participation in SHARP includes, but is not limited to, receiving a full-service, comprehensive consultation visit, correcting all identified hazards, and developing an effective safety and health program management system. Employers accepted into SHARP may receive an exemption from programmed inspections (not complaint or accident investigation inspections) for a period of two years initially, or up to three years upon renewal.

Voluntary Protection Programs (VPPs)

Voluntary Protection Programs (VPPs) recognize employers and workers in the private industry who have implemented effective safety and health management systems and maintain injury and illness rates below national Bureau of Labor Statistics averages for their respective industries. To participate, employers must submit an application to OSHA and undergo a rigorous onsite evaluation by a team of safety and health professionals.

In VPPs, management, labor, and OSHA work cooperatively and proactively to prevent fatalities, injuries, and illnesses through a system focused on hazard prevention and control, worksite analysis, training, effective management, and worker involvement. VPP participants are exempt from OSHA programmed inspections while they maintain their VPP status.

Voluntary Protection Program and onsite consultation services, when coupled with an effective enforcement program, expand worker protection to help meet the goals of the OSH Act. The three levels of VPP—Star, Merit, and Demonstration—are designed to recognize outstanding achievements by companies that have developed and implemented effective safety and health management systems. The VPPs motivate others to achieve excellent safety and health results in the same outstanding way as they establish a cooperative relationship between employers, employees, and OSHA.

Case Study – VPP

Major League Baseball's Chicago Cubs have undertaken an extensive renovation project at the Cubs' historic baseball park, Wrigley Field. Some of the construction activities in phase one include: structural steel and concrete work throughout the facility, bleacher expansion, and restoration in left and right field.

Wrigley Field Management and Pepper Construction stated from the onset of the project that the number one priority was safety. The Voluntary Protection Program was integral

to the project and achieving the level of safety desired by Wrigley field and Pepper Construction, the general contractor.

Brandenburg Industrial Service Company was hired by Pepper Construction to demolish and remove the outfield wall and bleachers. Using an all-union labor from Operating Engineers Local 150 and 225, as well as one manager, for a total staff of 8, Brandenburg held daily safety meetings and Pepper's safety manager addressed potential work hazards, as well as the adjacent contractor's activities, all of which made for excellent communication for the workers and the overall project. Additionally, Brandenburg's safety manager conducted weekly safety meetings addressing the upcoming work activities, as well as several weekly safety audits. As part of Brandenburg's VPP best practices, each of their workers completes a Daily "Safety Task Analysis Card", which is a trifold form that serves as a reminder of the associated hazards, preventative actions, and PPE requirements. This commitment to safety resulted in zero injuries or illnesses during the project, which lasted approximately 1400 total man hours

Strategic Partnership Program

OSHA's Strategic Partnership Program, the newest of OSHA's cooperative programs, helps encourage, assist, and recognize the efforts of partners to eliminate serious workplace hazards and achieve a high level of worker safety and health. Whereas OSHA's Consultation Program and VPP entail one-on-one relationships between OSHA and individual worksites, most strategic partnerships seek to have a broader impact by building cooperative relationships with groups of employers and employees. These partnerships are voluntary, cooperative relationships between OSHA, employers, employee representatives, and others such as trade unions, trade and professional associations, universities, and government agencies.

Strategic Partnerships

National Electrical Contractors Association Central Ohio Chapter and International Brotherhood of Electrical Workers Local Unions 638 and 1105 #773

As part of continuing efforts to improve safety and health for electrical workers, the U.S. Department of Labor's Occupational Safety and Health Administration has renewed a strategic partnership with the Central Ohio Chapter of the National Electrical Contractors Association, the International Brotherhood of Electrical Workers Local Union 683 of Columbus, and Union 1105 of Newark. (https://www.osha.gov/news/newsreleases/region5/12032012-1)

Associated Builders and Contractors, Inc. (ABC) Central Texas

The Texas Chapters of Associated Builders and Contractors (ABC) and its member companies and the Texas Offices of the Occupational Safety and Health Administration of the United States Department of Labor (OSHA), all mutually recognize the

importance of ensuring a safe and healthful work environment in the construction industry.
(https://www.osha.gov/dcsp/partnerships/regional/region6/abc_renewal2017.html)

Training and Education

OSHA's area offices offer a variety of information services, such as compliance assistance, technical advice, publications, audiovisual aids, and speakers for special engagements. OSHA's Training Institute in Arlington Heights, IL, provides basic and advanced courses in safety and health for federal and state compliance officers, state consultants, federal agency personnel, and private sector employers, employees, and their representatives.

The OSHA Training Institute has also established OSHA Training Institute Education Centers to address the increased demand for its courses from the private sector and from other federal agencies. These centers are nonprofit colleges, universities, and other organizations that have been selected after a competition for participation in the program. There is a Federal Education Center in each of the 10 Federal Regions. OSHA awards grants to nonprofit organizations through its Susan Harwood Training Grant Program in order to provide safety and health training and education to employers and workers in the workplace.

Susan Harwood Training Grants

OSHA awards grants to nonprofit organizations on a competitive basis through its Susan Harwood Training Grant Program. Grants are awarded to provide training and education programs for employers and workers on the recognition, avoidance, and prevention of safety and health hazards in their workplaces and to inform workers of their rights and employers of their responsibilities under the Occupational Safety and Health (OSH) Act. Solicitation for the Susan Harwood Grant Program is a function of Congressional budgetary approval and appropriation by the Department of Labor.

OSHA established its discretionary grant program in 1978 entitled New Directions. Grantees were awarded for up to five years, with grantees increasing its share of support with the goal to become self-sufficient. Many of the grantee organizations continue to offer occupational safety and health training to this day. In 1990 the grants were restructured, due to reductions in funding. In 1997, the program was re-named in honor of the late Susan Harwood, a former director of the Office of Risk Assessment in OSHA's Health Standards Directorate, who died in 1996. During her 17-year tenure with the agency, Harwood helped develop OSHA standards to protect workers exposed to bloodborne pathogens, cotton dust, benzene, formaldehyde, asbestos, and lead in construction.

The types of grants solicited each year vary. Grants solicited in the past include Capacity Building grants, Targeted Topic, and Training Materials Development:

- Capacity building grants focus on developing and/or expanding the capacity of an organization to provide safety and health training, education and related assistance to the targeted audiences. The organization must provide financial plans to continue capacity beyond the grant period. Two types of capacity building grants have been awarded: developmental and pilot.
    - Developmental grants support and assist organizations who through their past activities have established a capability to provide occupational safety and health training, education, or related assistance, but where the organization wants to expand their training capacity into a new safety and/or health topic area.
    - Pilot grants are intended to assist organizations able to demonstrate a potential for meeting the objectives of this program, but that need to assess capabilities, needs and priorities; and formulate objectives before moving forward into developing a full-scale program.
- Target topic grants focus on training of workers and/or multiple employers on occupational safety and health hazards associated with one of the OSHA selected training topics.
- Training materials development grantees are expected to develop, evaluate, and validate classroom quality training materials on one of the OSHA selected training topics.

OSHA selected topics vary from year to year and are selected based on fatal statistics, national emphasis programs, and pending regulations. Topics are separated into general industry, construction, and other. Other topics may include safety and health issues from other industries (maritime, oil and gas) or emerging topics, such as nanotechnology and green jobs.

Training materials produced through the Susan Harwood Grant Program can be found here.

Electronic Information

OSHA has a variety of materials and tools available on its website. These include e-Tools, Expert Advisors, Electronic Compliance Assistance Tools (e-CATs), technical links, regulations, directives, publications, videos, and other information for employers and employees. OSHA's software programs and compliance assistance tools walk you through challenging safety and health issues and common problems to find the best solutions for your workplace.

Lesson Summary

- The Occupational Safety and Health Act of 1970 (OSH Act) encourages states to develop and operate their own job safety and health plans, which OSHA then approves and monitors. There are currently 28 state/territory plans: 22 cover both private and public (state and local government) employment; 6 states/territories—Connecticut, Illinois, Maine, New Jersey, New York, and the



Virgin Islands—have plans that cover the public sector only, and use federal OSHA regulations for private industry. There are 28 states/territories that use only federal OSHA regulations.

- Consultation assistance is available upon request to employers who want help in establishing and maintaining a safe and healthful workplace. Funded equally by OSHA and each state, consultation services are provided at no cost to the employer.
- Voluntary Protection Programs (VPPs) recognize employers and workers in the private industry who have implemented effective safety and health management systems and maintain injury and illness rates below national Bureau of Labor Statistics averages for their respective industries. To participate, employers must submit an application to OSHA and undergo a rigorous onsite evaluation by a team of safety and health professionals.
- OSHA's Strategic Partnership Program, the newest of OSHA's cooperative programs, helps encourage, assist, and recognize the efforts of partners to eliminate serious workplace hazards and achieve a high level of worker safety and health.
- OSHA's area offices offer a variety of information services, such as compliance assistance, technical advice, publications, audiovisual aids, and speakers for special engagements. OSHA's Training Institute in Arlington Heights, IL, provides basic and advanced courses in safety and health for federal and state compliance officers, state consultants, federal agency personnel, and private sector employers, employees, and their representatives.

Module 16: Scaffolds

Module Description

This module provides a general overview of the safety measures that are required when working on a scaffold. The module begins with an introduction into the various types of scaffolds and goes on to outline the OSHA safety requirements and safety measures that can be taken to ensure that employees working on scaffolds are safe.

Module Learning Objectives

At the conclusion of this module, students will be able to:

- Describe the various classifications of scaffolds
- Discuss the basic OSHA safety requirements
- Describe the measures that can be taken to ensure safe working conditions on a scaffold

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